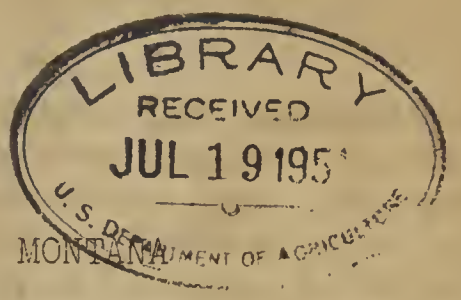
United States Department of Agriculture
Extension Service
Division of Cooperative Extension



AGRICULTURAL PLANNING IN PONDERA COUNTY, MONTANA

J. C. Taylor,
Director of Extension Service,
Montana

Part 1

Before attempting to discuss the present planning work in Pondera County, it will be helpful to consider briefly the background build-up which has made it possible to carry on this work so successfully.

The situation which brought about a need for this type of work among farmers is well summed up in the introduction of a paper by A. C. Petersen, Pondera County extension agent, entitled, "Economic Utilization of Land, Pondera County, Montana." As Mr. Petersen points out, during the period following the World War, farmers found themselves in a desperate struggle to secure enough income from their lands to meet operating costs and fixed charges. The taxation situation and acquisition of land by the counties was also becoming serious.

In an endeavor to cope with the situation, a series of district economic conferences was held in the State early in 1927. In Pondera County considerable work of an economic nature was done prior to holding these district conferences. Statistical data were gathered from 250 irrigated farms, and from these data a series of operating plans was prepared and published in a pamphlet entitled "Paying Out on an Irrigated Farm on the Valier-Conrad Project." This material and the educational work therewith stimulated a great deal of interest in adjustments to meet the then existing farm problems. The result was that a conference of farm leaders was called to give further consideration to land-use problems. This conference resulted in the selection of 12 delegates to attend the district economic conference which had in the meantime been scheduled to be held in Great Falls in March 1927. At this district conference a farm program was written for north central Montana and has since been widely used as a basis for extension work in the area.

Following this, Mr. Petersen compiled a great deal of additional economic data, and continued to carry the work as a regular extension program. A reconnaissance soil survey was made of the county in 1929. During the years immediately following, this information and the land classification were widely discussed throughout the county, and special committees rendered valuable assistance in checking the maps in each community. As a result farmers became "soil conscious." And, as indicated in another section of this report, the land classification map is the foundation upon which present-day planning work rests.

In 1935, when the Program Planning Section of Triple-A asked for estimates on crop and livestock production by counties, a county committee was selected on a commodity basis. This committee, which was composed of farmers,

businessmen, and credit representatives, devoted considerable time to discussing land-use problems and prepared a land-use map of the county. Following this, they conducted a study of production records, crop disposition, and the results obtained through the production-control and conservation programs. They then prepared some tentative estimates of probable future production based on what was considered to be best land use. The estimates prepared in March 1936 were revised in the fall of that year.

The materials just referred to were widely discussed at community meetings attended by 365 farmers. This was the beginning and the basis for determining the Pondera County plan of carrying out the agricultural-conservation program in 1937 and 1938.

It will be seen from the foregoing discussion that agricultural planning has received much attention in Pondera County during the past decade. The discussion also serves to emphasize that much time and effort are required to crystallize farmer thinking concerning agricultural adjustments. As the work progressed and the need for adjustments became more pressing, and with more and more assistance available through cooperation with governmental agencies it became apparent that more detailed planning was needed. Accordingly it was decided in the fall of 1937 to reorganize the planning procedure on the basis of community and county committees, as explained in part 2 of this report.

AGRICULTURAL PLANNING IN PONDERA COUNTY

Part 2

The agricultural-planning work under the present set-up got under way with the election of community committeemen in 13 communities. The chairman of each community committee is a member of the County Planning Board which is the policy-forming committee for the county. The County Planning Board has selected as ex-officio members the representatives of action agencies which operate in this county, and a member of the Board of County Commissioners, a representative of the Farmers' Union, Smith-Hughes instructors, and the chairman of the Beet Growers' Association are also ex-officio members.

In making the community reports of background, problems, and recommendations the community committees have followed the outline prepared for that purpose so that a uniform procedure would be followed in all communities. As basic material the committees used soil-classification maps, weather data, statistical data found in the County Agricultural Planning Handbook, and production data established under the Agricultural Conservation program.

From time to time the County Planning Board met to discuss the procedure and to outline plans of work to be carried out in each community. In this way all communities were kept working, and the interchanging of ideas on compiling reports aided materially in bringing about a uniformity in methods. At each meeting of the County Planning Board each chairman of a community committee reported the progress of his committee in working up the report for his community and submitted material for the county planning program.

The community committees first drew up general problems and recommendations characteristic of their area which later were to be broken down into type of farming areas and lastly would apply to bringing about adjustments which would increase the stability of the individual farmer. At the present time most communities are up to the stage of having their general community problems and recommendations outlined; however, some have their type of farming areas fairly well analyzed. After compiling community reports, the community committees held meetings to discuss the material with all farmers and asked for additions or corrections before getting the approval of the report. In this way the committees received the backing of their entire community on the work they had done.

The County Planning Board has seen fit to give certain problems special emphasis, so it has appointed committees to deal with insect control, weed control, water conservation, and soil erosion. It is planned that subcommittees in each community would deal with the same problems. As time goes on and need arises other committees will be appointed to deal with special problems.

At a county Planning Board meeting a general county agricultural program was drawn up using the community reports as basic material. This report, although not final, is a start in forming a definite agricultural policy for the county which may be used as a guide in working out a long-time land use program for the county.

The Agricultural Planning program will aid materially in furthering the Extension program in that we have the farmers themselves pointing out the problems which need special emphasis. Then, too, the educational program presented through group discussions will instill good sound agricultural principles into the minds of more farmers than would be reached through other methods.

The development of leadership in these agricultural groups is a factor which deserves mention in connection with this program. In the planning work carried on to date sound leadership has been built up which will have long-lasting influence in these rural communities.

In addition to helping the Extension program there are many other uses to which the information compiled by the planning committees will be put, as is indicated by the report of the Conrad Community Committee. (See pages 9-14.)

Preliminary County Planning Report

Description of Area

The history of the agriculture of Pondera County dates from the early grazing stage when large operators, running sheep and cattle, grazed the entire county with only an occasional broken field seeded to feed crops. Homesteading began in 1909, and most of the farm land in the county was homesteaded between that date and 1912. However, very little land was broken up until about 1915 and 1916, at which time wheat raising became the outstanding type of agriculture.

Large tracts of land were broken up with steam tractors, and most of it was farmed each year, as summer fallowing had not become a common practice. The irrigation project was started in 1909, and most of the present irrigated area was brought under irrigation in 1911 and 1912.

The natural resources of the county consist largely of its fertile soil. There are about 553,000 acres of cropland, 135,000 acres of which is first-grade farm land; 165,000 acres, second-grade farm land; 80,000 acres, third-grade farm land; and 135,000 acres, fourth-grade farm land. Of this area, 120,000 acres are under irrigation.

Most of the grazing land in the county is of high quality, 90,000 acres being first-grade grazing land; 30,000, second grade; and 80,000 acres, third-grade. None is classed as low as fourth-grade grazing land. Mountains to the west of the county furnish the water supply for irrigation.

Other natural resources consist of coal in the southwestern part of the county and oil fields in the southern part of the county. The oil field is the third largest producing field in the State.

Climate

The average precipitation for the county is a little over 12 inches. We are fortunate in that most of this falls during the growing season. Then too, the cool winds coming from the slope on the west of the county bring heavy dews during the summer months.

The average growing season is 120 days, which is the frost-free period. The climate is very changeable and uncertain, since wide variations occur from year to year.

Problems

The soil-erosion problem is considered the outstanding factor in the loss of soil fertility. Wind erosion is the most serious, and approximately 50 percent of the farms are affected somewhat by it. Some soil fertility is lost from water due to sheet erosion and leaching on overirrigated areas.

Range depletion is a serious problem, which has been accelerated by drought, insects, and overstocking because poor markets would not allow the customary movement of stock from this area.

Insect control is a constant problem, even though the same insects do not appear each year. The greatest threat comes from grasshopper infestation; cutworms, webworms, Say's grain bugs, hessian flies, wireworms, and Mormon crickets are threats in local areas from time to time.

Water utilization

The improper utilization of irrigation water has caused some sheet erosion Poor irrigation practices in some cases have leached soil fertility as well as permitted the waste of valuable irrigation water. There is considerable run-off in some areas due to the lack of vegetation and conservation practices which keep the water from heavy rains from running into the coulees and leaving the county.

Farm organization

There is a problem in farm organization in that there should be some adjustment in size of units. Some units are too large, especially on irrigated land, and at the same time some units are too small to provide an adequate living for the average-size family. Therefore, there is a need for a shift to an economical-size unit for the type of farming carried on in the various communities of the county.

Type of farming

The outstanding type of farming carried on throughout the county has been alternate summer-fallow and grain. This has been practiced to a large extent even in the irrigated districts. There is a need for shifting to a more

intensified agriculture on irrigated places to bring about better crop rotation and higher income on this higher-priced land. Most of the farms in the county are operated on a tractor basis. It is estimated that 90 percent of the farms have tractors.

Schools

The schools of the county are handicapped by a scattered population, which makes it impractical to provide adequate school facilities in all districts. The financing of schools could be equalized greatly if the taxation system were changed from a district basis to a county or State basis, because only those districts that are fortunate enough to have public utilities located in them, receive any benefit from the taxes of these resources.

Taxation

The agricultural land in the county should be reclassified according to its productivity, and grazing land should not be taxed at a rate which will force it to be broken up and put into crop production in order to pay returns.

Social and economic problems

There is a need for improving the housing facilities on nearly all farms. Electrical power would be very beneficial in modernizing the homes and making living conditions more desirable. There is a lack of social and civic centers to carry on community social activities. Better roads are needed to link the farms in most communities to their community centers and schools.

An increase in the number of shelterbelts would improve the appearance of the homes and increase the desirability of living on the farm. Farms of this county are at a disadvantage in that they are a long distance from markets.

Program for improvement

Best Land Use

Dry-land areas of this county are most adapted to cash-grain farming on a 50-50 summer-fallow basis, laid out in strips. A scattering of livestock wherever possible would increase the stability of the dry-land farm.

The irrigated districts are adapted to more diversified and intensified farming than is practiced at the present time. Strip cropping on irrigated land, wherever possible, is recommended. Also an increase of livestock on irrigated farms would help to utilize the crops raised under the rotational practice which is recommended.

It is recommended that the taxable valuation of grazing lands should not exceed the value for grazing purposes. Rotational grazing on both dry and irrigated pastures would greatly increase their carrying capacity. There may be possibilities of establishing grazing districts in some areas which could be used by all farmers of a community and be managed in a scientific manner.

Water development in the grazing districts would help in distributing the livestock more evenly over the area. There are some areas in the county, which are in crop at present, that should be restored to native grass. There is a need for forming conservancy districts to bring about coordinated effort to conserve soil fertility and to eliminate wind erosion as much as possible.

Crop and Tillage Practices

It is recommended that strip fallow be practiced in all areas subject to wind erosion, whether or not there is any serious wind erosion at the present time. Strip cropping may be practiced on irrigated land to accomplish the same end. Only implements which do not have a pulverizing effect should be used in areas subject to wind erosion. Contour cropping may have possibilities in some areas to retard erosion from wind and water.

The crops adapted to this area are Marquis and Supreme wheat, Horn and Trebi barley, Victory and Markton oats, Grimm and Ladak alfalfa, white and yellow sweetclover, standard crested wheatgrass, and Bison flax. The recommended date of seeding is from April 20 to May 15 for spring wheat; September 15 to October 15 for winter wheat; April 10 to May 1 for oats; April 10 to May 1 for barley; and September 15 to October 30 for crested wheatgrass. The rates of seeding are 30 to 45 pounds of spring wheat on dry land, or 60 pounds on irrigated land; winter wheat, 55 to 65 pounds; oats, 40 to 48 pounds; barley, 55 to 65 pounds; and crested wheatgrass, 3 to 5 pounds per acre.

We recommend that range land be regrassed as a practice of deferred grazing rather than artificial reseeding to any great extent except on abandoned farm land. It is recommended that we increase the small livestock enterprise and, as much as possible, include some type of livestock on every farm to supplement income, utilize livestock feeds, and to bring about more stability to overcome the fluctuations in production and prices of their farm commodities.

Insect control should be coordinated so that all operators in infested areas cooperate in controlling the pests. The County Planning Board has set up an insect-control committee to help coordinate action toward insect control.

Water Development and Use

It is recommended that every move possible be put into effect which would retard run-off water and which would develop irrigation systems in areas that are now damaged by the uncontrolled run-off. It is recommended that more efficient use be made of irrigation water by using improved methods of irrigation and by more efficient use of the water now available.

There are some areas in the county where the water, which ordinarily runs into coulees and leaves the county, could be spread and stored in the soil. It is the purpose in our planning work to encourage the spreading of water and retain as much of this resource in our county as possible.

Social Economic Recommendations

The problems and recommendations for the county are general in nature, and variations naturally occur in communities and among farms within a community. Therefore the more specific problems and recommendations for each area are found in community committee reports.

As an adjustment to an economic problem replacing speculative markets with more cooperative farmer-owned markets is recommended.

It is recommended that the people use whatever agencies available to better the living conditions in the home. It is believed that the R. E. A. should lower their minimum number of farms per mile so that electricity could be brought to more farm homes of this county. The larger units would then make up for the fewer farms, in that more electric power would be used on each farm. There is a great need for electricity and modern appliances to add to the comfort and contentment of the farm home.

Pondera County Planning Board:

Alvin Erickson,
H. M. Freebury,
George Lederer,
R. Wollam,
M. C. Wickware,
A. H. Habets,
J. U. Bishop,
H. V. Turk,
C. E. Beattie,
Bob Brophy,
J. W. Erwin,
H. M. Massie,
R. C. Dyer.

History and Description of the Conrad Community

The area* under discussion includes mostly irrigated land surrounding Conrad. It also takes in some dry-land sections along the Midway Bench, and a small territory along the Dry Forks.

This community was devoted mostly to grazing, and comprised large units of sheep and cattle up to the time the land was homesteaded, beginning about 1909 and 1910. These large units had proved themselves very successful, having large areas of free range at their disposal.

Commencing in 1909 and 1910 this territory was all homesteaded and was plowed up and devoted mostly to the raising of wheat and other small grains. The livestock industry was completely revised. The large units were put out of existence and small herds were established on each farm in connection with the grain farming practice. The establishment of the irrigation project about 1911 encouraged the growing of grain and the breaking up of more new land to be devoted to that purpose.

Later, however, as the weeds became a menace to this community, it was found that diversion became more necessary and that summer fallow also became useful as a means of controlling weeds. Dry-land farmers soon found that straight cropping of grain year after year was not practical and that it was necessary to summer-fallow every other year to maintain their yield.

Later it became evident that the raising of wheat on irrigated land was not a very paying proposition and that it was necessary to introduce special crops to intensify production. Alfalfa had been used rather extensively, and this helped also to maintain the livestock population of the community.

This community is comprised mostly of No. 1, 2, and 3 grade of farming land, there being very little grazing land within the territory. It has an arid climate, with a rainfall averaging from 10 to 12 inches. Rainfall varies, however, from year to year, which causes a considerable problem for dry-land farmers, and also from the standpoint of water supplies for irrigation.

There is considerable wind - Chinooks in the wintertime and sometimes severe hot winds in the summertime - which causes considerable wind erosion in the fall and spring.

The total population of this community is approximately 3,000, the agricultural population being approximately 1,200.

---

*The map presented before the conference as an aid in describing this area is not included in this assembly.

Problems.

Considerable soil fertility has been lost on irrigated land due mostly to straight grain-farming pracrices and to wind erosion and the improper use of water. On dry land the loss in soil fertility is caused mostly by wind erosion. Erosion problems of the community are confined mostly to wind erosion, water erosion from heavy showers, improper use of irrigation water, and undercontrolled water.

The ranges are badly depleted due to overgrazing and lack of rainfall. Also, the accumulation of livestock caused by poor markets has contributed to the depletion of the ranges.

Insects in this community have been kept rather well under control. Grasshoppers have been poisoned with success. Some difficulty has been experienced with webworms, but they also have been kept pretty well under control by poisoning. The damage from cutworms has not been great in the last few years.

There is still an opportunity to utilize more water, there being considerable run-off down the Pondera Creek of both floodwater and waste water from irrigation projects.

In the organization of the farms of the community, it has been found that most of those irrigated are too large and could easily be split up in smaller units. The dry-land farms, on the other hand, are too small in some cases. The type of farming carried on is mostly cash crops and general farming, with some dairying and livestock. In the farm organization in general, there is lack of diversified farming and rotational practices.

The community is rather well supplied with schools, but a problem exists from the standpoint of taxation and maintenance of the school system. There is need for better main roads, and feeder roads to connect our rural schools. Mortgage indebtedness is somewhat heavy throughout the community, and in many cases too many creditors are involved in each farming unit.

There also is a lack of proper housing facilities, community recreation facilities, and electricity for modern appliances. In connection with economic problems, it can safely be stated that distances to markets and high freight rates have been burdensome to the farmers in this community.

Conrad Community Committee:

Alvin Erickson, Chairman,
Clifford Fowler,
Harry Elliott.

General Program for Improvement in the Conrad Community

No land has been recommended for restoration in this area.

For crop-tillage practices strip fallow and conserving stubble and trash on fallow is recommended for dry-land and cash-grain areas. It is also recommended to decrease summer-fallow acreage on irrigated land and to substitute crop rotation in its place.

Small grains recommended are Marquis and Supreme spring wheat, Victory, Markton, and Swedish Select oats, Trebi barley or irrigated land and Horn barley for dry land. The period for seeding is recommended from April 20 until May 15. The rate of seeding for wheat is 45 pounds per acre on dry land and 60 to 75 pounds on irrigated land. The rate for oats is 1 bushel per acre on dry land and 2 bushels per acre on irrigated land. Barley is seeded at the same rate as oats.

The Committee recommends:

For regrassing range land, the use of crested wheatgrass, sowed at the rate of 5 pounds per acre, at a depth of one-half inch, and preferably in the fall of the year.

For stock management, small farm herds to fit in with diversified farming practices and also to supplement family income.

For insect control, the use of poisons and other recommended practices for control, and establishment of insect-control committees to report ourbreaks and help to determine control policies.

For water development and use, the building of small reservoirs to control run-off and to provide water storage for stock and irrigation; also, improved irrigation practices to prevent waste water and uncontrolled water.

Higher state and county-wide tax levies to supplement present district levies to support the elementary schools of the community. It is believed that this will bring about a more equitable distribution of tax revenue from State resources. Also, that there should be a more equitable distribution of taxes according to ability to pay. This can be brought about partly by reclassifying land for taxation according to its ability to produce.

Farm credit can be more extensively used for the purpose of combining debts to improve set-ups and, secondly, to build stronger economic units.

That the people use whatever agencies available to better the living conditions in the home. It is believed that the R. E. A. should lower its minimum number of farms per mile so that electricity could be brought to more farm homes of this county. The larger units then would make up for the fewer farms, in

that more electric power would be used on each farm. There is a great need for electricity and modern appliances to add to the comfort and contentment of the farm home.

Conrad Community Committee:

Alvin Erickson, Chairman,
Clifford Fowler,
Harry Elliott.

Agricultural Planning Recommendations for Type of Farming Areas in the Conrad Community

1. Irrigated area:

On the irrigated area of the Conrad Community it has been a common practice on many farms to grow considerable wheat and to summer-fallow quite an acreage each year. However, there is need for a shift to more intensified and diversified farming on this land to produce adequate returns for this higher-priced land and to maintain or build up the fertility of the soil. The use of row crops in the rotation to replace summer fallow for the control of weeds is recommended.

A shift to more intensified farming would necessitate a break-down into smaller units in some cases. However, it is believed that 120 acres should be the minimum size of farm, because a livestock enterprise of some kind should be part of each farming unit to supplement the crop enterprise and better to stabilize farm income.

The outstanding problems confronting farmers in this area are weed control, tenancy, better utilization of irrigation water, soil fertilization, insect control, and in some areas seepage due to irrigation.

These problems can be worked out largely through education and cooperation; however, such agencies as the P. C. A., the Agricultural Conservation Association, and the Farm Security Administration will be useful tools in bringing about the shifts and adjustments necessary in this area.

2. Cash-grain area:

The cash-grain area is a dry-land area which is best suited to the production of wheat. It is an accepted practice to alternate crop and summer-fallow which creates a wind-erosion hazard when the fallow is not protected by strips or left rough through the use of good tillage methods.

It is believed that there is need for some adjustment to economical-size units for this type of farming. This may be brought about through such credit agencies as the Farm Security Administration, Federal Land Bank and private credit agencies.

The soil-erosion problem is perhaps the most serious in this area in that wind erosion is liable to occur, especially during the fall and spring seasons. Therefore it is recommended that strip farming be practiced wherever practical and the fact be emphasized that strips should not be so wide as to be ineffective in controlling soil erosion on the type of soil with which the community is dealing; also, that careful consideration be given the use of tillage implements which will not leave the soil subject to erosion. It is believed that timeliness of operation plays an important part in this respect. The Agricultural Conservation Association, the Soil Conservation Service, and education through group discussions will be useful tools in working out these problems.

3. General farming area:

The area classed as general farming is adapted more to livestock, feed grains, and some cash grain because it includes rough land and grazing land which is unsuited for cash-grain farming. It is believed that livestock enterprise should be included wherever possible to balance the uncertainty of crop production and to utilize the portions of land unsuited to cultivation.

In the general farming area there are problem areas which have been under cultivation, but due to physical factors have proved unsuited to cultivation. Soil erosion by wind and water linked with lower producing soils make it questionable whether or not these areas should be abandoned for crop use and be restored to grass.

It is recommended that careful consideration be given soil erosion control, regrassing of abandoned farm lands, and storage of stock water in this area. The agencies which could aid in bringing about adjustments in this area are the Agricultural Conservation Association and the Soil Conservation Service. Also, there is a possibility that some enabling legislation for soil conservation could be used to advantage. Education through group discussions will be necessary to get cooperative effort in dealing with the problems which confront this area.

4. Grazing area:

The area classed as grazing land is unfit for cultivation due to its shallow soil and topography. Some of this land has been broken from sod and attempts have been made to farm it, however, due to the physical factors mentioned previously it is believed that it is better suited to grazing than any other use.

There is a need in this area for some development of stock water and regrassing of abandoned farm land. These areas have not been spotted, but will be as time goes on.

Future Plans of the Conrad Community.

It is realized that in setting up the problems and recommendations for Conrad Community variations may occur within areas; therefore, recommendations

have been made rather general. Furthermore, the problems and recommendations will necessarily change from time to time so the work along this line is far from complete.

It is believed that future planning work in the community is largely educational. There is a need for making the people conscious of the problems confronting them and to get their coordinated effort in working out the recommendations. There also is need for outlining to the action agencies the plan as set up by the planning committee so that their efforts may be coordinated in bringing about the necessary adjustments.

The Committee believes that the youth should familiarize themselves with agricultural planning work so that they will be fitted to carry out the work when they are left with that responsibility. The Smith-Hughes departments and Farmers' Union juniors could profit by using agricultural-planning material in their educational program.

Conrad Community Committee:

Alvin Erickson, Chairman,
Clifford Fowler,
Harry Elliott.

SUGGESTED PROCEDURE FOR FUTURE AGRICULTURAL PLANNING

One of the strongest, most often heard criticism of planning is that the plans or recommendations will not receive consideration. This criticism, while not always justified, is worthy of careful consideration in developing plans for carrying on this type of work in the future. This involves the question of cooperation and coordination between individuals and Government action agencies which is the key to sound practical planning as well as successful prosecution of programs. Too many people at present regard the existing action programs as "grab bags" instead of implements to assist them in making needed adjustments. This is due largely to lack of understanding on the part of farmers of the philosophy back of the programs. This situation can be corrected through a democratic planning procedure as suggested in this report.

The planning organization and procedure outlined in part 2 of this report has proved highly satisfactory in the majority of the counties actively engaged in the planning work. It cannot be too strongly emphasized, however, that because of local conditions and problems this set-up is not always satisfactory. For instance, in counties where settlement is sparse and the land now mainly used for grazing, a central or county planning committee may prove most satisfactory. Or, it may be that a certain section of the county has a diversified type of agriculture while the remainder is range land. In such a case community committees may be needed in the diversified area and these committees would send their representatives to sit on the county committee together with representatives chosen at large from the range area. The point

is, committees should not be set up unless there is work for them to do and a reasonable expectancy that some good can be accomplished through their efforts.

In Montana, land and water use are of course the basic considerations in the development of any long-time agricultural program. All land is good for something. The problem is to determine the use to which it is best adapted and then to see that it is put to that use. Nearly everyone is now free to admit that many mistakes were made when Montana lands were first thrown open for homesteads. It is not necessary to discuss these mistakes here or the problems resulting from them which are causing such great concern at the present time. If, however, the situation is to be corrected, a fundamental study of resources, including soils, climate, water supplies and so on must be made. There is probably no one best procedure to follow in this type of study, but one thing is paramount - it must be done on the ground in cooperation with local people who know their problems best. Fortunately in Montana there is a great deal of basic information which will be of great value in this type of work if properly used. Soil surveys and land classification, production records, tax studies, land-ownership maps, and other information gathered in recent years by the Montana Agricultural Experiment Station and cooperating agencies are examples of such information. To be most effective, however, this information must be supplemented with field studies showing present use of the land and the interrelationship of the problems. The analysis and interpretation of existing data and additional field studies needed require technical assistance. With county extension agents already overburdened with other activities it is next to impossible for them to devote the required time to this work. The community committees in some counties have carried on throughout the winter, with but very little contact from the extension agent. Sound coordinated planning cannot be expected under such conditions. Additional assistant agents and analysts are needed to relieve the extension agents in order that they can maintain closer contact with the planning groups.

After the background study of problems and resources has been made, a map should be prepared showing:

1. Restoration land or lands that should be permanently regrassed.

2. Areas in which for various reasons it is questionable whether farmers can conserve their soil and make a living over a period of years. These would in general constitute the worst problem areas.

3. Areas which are now in timber or grazing and which should be permanently so used.

4. Areas which are not now in cultivation and which may be suitable for development into farms.

5. Areas apparently suited for continued cultivation but in which important changes in type or method of farming as well as size of units are necessary for farm stabilization.

6. Areas where apparently little adjustment is needed.

This map should be prepared for each community and then fitted together for the county. Lines showing type of farming areas, by communities, should be drawn in similar to the procedure used in Pondera County. Many communities do not have well defined problem areas and in such cases the recommendations would be made for the entire type of farming area. The committees should then give their reasons why they classified the different areas of their community as they did, indicate its problems and what they consider should be done to cope most effectively with these problems.

The next step for the committees to consider is how the adjustments or changes recommended can be brought about. This will involve individual action as well as assistance available from governmental agencies. Education which results in individual action is still one of the principal factors to be relied on in adjusting to meet new and changed conditions. If this educational process can be carried on through such activity as planning, where the incentive comes mainly from rural people themselves, it will be far more effective than the traditional extension method has been.

Summed up then, the procedure which appears to be required for effective agricultural planning would be somewhat as follows:

1. Assemble, analyze, and make available in understandable form all data which have a bearing on the agriculture of the area or community.

2. Match data with the experience of local people. This step is education working both ways. It bridges the gap between specialists and farm people and provides for more effective use of research material.

3. On the basis of facts studied and knowledge of local conditions, local leaders form judgments and develop policies for bringing about needed adjustments.

4. Local citizens and governmental agencies cooperate in carrying out policies and programs established.